Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-51. (**Canceled**)

52. (**Previously presented**) A method for the long term culture of hepatocyte cells or at least one non-hepatocyte cell type, wherein the said at least one non-hepatocyte cell type is selected from the group consisting of gall bladder epithelial cells, gall bladder endothelial cells, bile duct epithelial cells, bile duct endothelial cells, hepatic vessel epithelial cells, hepatic vessel endothelial cells, sinusoid cells and non-parenchymal liver cells, said method comprising the steps of:

commuting hepatocyte tissue in cold DMEM and incubating for up to 24 hours at 4°C;

twice digesting with liberase® at a concentration of 0.2mg/ml in the presence of lignocaine;

separating the digested hepatocyte cells; and

culturing in medium comprising allogeneic serum,

wherein said hepatocyte cells or non-hepatocyte cells are capable of secreting one or more liver secretory factors for extended periods in culture.

53. (**Previously presented**) The method of claim 52, wherein the hepatocytes are neonatal hepatocytes.

54. (**Previously presented**) The method of claim 52, further including the step of co-culturing the non-hepatocyte cells with the hepatocyte cells.

55. (**Previously presented**) The method of claim 54, wherein the non-hepatocyte cells and/or hepatocyte cells are neonatal cells.

56. (**Previously presented**) The method of 53, wherein the at least one non-hepatocyte cell type and/or hepatocytes are pig or human cells.

57. (**Previously presented**) The method of claim 52, wherein the one or more liver secretory factors are selected from the group comprising albumin, blood clotting factors such as factor VIII or factor IX, growth and/or differentiation factors such as growth hormone and analogues thereof, insulin-like growth factor and analogues thereof, hepatocyte growth factor and analogue thereof, fibroblast growth factor and analogues thereof; or hormones such as corticosteroids.

58. (**Previously presented**) A method of producing one or more liver secretory factors in vitro from at least one non-hepatocyte cell type selected from the group consisting of gall bladder epithelial cells, gall bladder endothelial cells, bile duct epithelial cells, bile duct endothelial cells, hepatic vessel epithelial cells, hepatic vessel endothelial cells, sinusoid cells and non-parenchymal liver cells, said method comprising the steps of:

isolating said at least one non-hepatocyte cell type;

culturing said at least one non-hepatocyte cell type in a medium supplemented with allogeneic serum for a time sufficient to allow secretion of said one or more liver secretory factors into the media;

harvesting said medium; and

optionally isolating or purifying said liver secretory factors.

59. (**Previously presented**) The method of claim 58, wherein the at least one non-hepatocyte cell type is co-cultured with hepatocyte cells.

60. (**Previously presented**) The method of claim 58, wherein said at least one non-hepatocyte cell type is isolated from neonatal tissue.

61. (**Previously presented**) The method of claim 58, wherein said at least one non-hepatocyte cell is a pig or human cell.

62. (**Currently amended**) An implantable composition comprising at least one differentiated, non-hepatocyte cell type capable upon implantation into a recipient of secreting one or more liver secretory factors or of providing one or more liver metabolic and/or physiologic functions to said recipient, wherein said composition comprises cells or aggregates thereof wherein said one or more differentiated, non-hepatocyte cell type is selected from the group consisting of gall bladder epithelial cells, gall bladder endothelial cells, bile duct epithelial cells, bile duct endothelial cells, hepatic vessel epithelial cells, hepatic vessel endothelial cells, sinusoid cells and non-parenchymal liver cells.

63. (**Previously presented**) The composition of claim 62 further comprising hepatocyte cells.

64. (**Previously presented**) The composition of claim 63, wherein the hepatocyte cells are from immortalized cells in a commercially available culture.

65. (**Currently amended**) The composition of claim 62, wherein the at least one non-hepatocyte cell type is a ~~are~~ neonatal cell.

66. (**Previously presented**) The composition of claim 62, wherein the at least one non-hepatocyte cell type is a pig or human cell.

67. (**Previously presented**) The composition of claim 62, wherein the at least one non-hepatocyte cell type comprises gall bladder endothelial and/or epithelial cells.

68. (**Previously presented**) The composition of claim 62, comprising gall bladder epithelial cells.

69. (**Previously presented**) The composition of claim 62 further comprising hepatocytes, wherein there is a ratio of between 0.5:2 and 2:0.5 gall bladder epithelial cells: hepatocytes.

70. (**Previously presented**) The composition of claim 62, wherein the one or more liver secretory factors is a blood clotting factor.

71. (**Previously presented**) The composition of claim 62, wherein the one or more liver secretor factors is Factor VIII and/or Factor IX.

72. (**Previously presented**) The composition of claim 62, wherein the one or more liver secretory factors is Factor VIII, and von Willebrand factor.

73 (**Previously presented**) The composition of claim 62, wherein the one or more liver secretory factors is a growth and/or differentiation factor.

74. (**Previously presented**) The composition of claim 62, wherein the one or more liver secretory factors is an enzyme.

75. (**Previously presented**) The composition of claim 62, wherein said non-hepatocyte cell types are derived from the same species as the recipient.

76. (**Previously presented**) A method of producing one or more liver secretory factors in vivo, comprising the step of implanting an effective amount of a composition as claimed in claim 62 into a patient in need thereof.

77. (**Previously presented**) The method of claim 76, wherein said composition provides liver secretory factors or provides liver metabolic or physiologic functions over an extended period post implantation.

78. (**Previously presented**) A method of treating a patient suffering from or predisposed to a disease or condition associated with a deficiency in or absence of a liver secreted factor comprising the implantation of an effective amount of one or more implantable compositions of claim 62 to a patient in need thereof.

79. (**Previously presented**) The method of claim 78, wherein said disease or condition is chronic liver insufficiency, liver failure, liver disease, or alcoholic liver disease.

80. (**Previously presented**) The method of claim 78, wherein said disease or condition is caused by infection with hepatitis A or B virus.

81. (**Previously presented**) The method of claim 78, wherein the disease or condition is a blood clotting disease or condition.

82. (**Previously presented**) The method of claim 81, wherein the blood clotting disease or condition is a hemophilia.

83. (**Previously presented**) The method of claim 82, wherein said hemophilia is hemophilia A.

84. (**Previously presented**) The method of claim 78, wherein the implantable composition comprises cells encapsulated in a suitable biocompatible material such as alginate; cells confined in a suitable device, such as a vascularized tube or Theracyte™ device; cells encapsulated in matrix preparations such as gelatin, collagen, and/or natural carbohydrate polymers; and/or cells confined in a plasma thrombin clot including allogeneic plasma clots produced with allogeneic thrombin.

85. (**Previously presented**) A method of administering a blood clotting factor to a patient in need thereof, wherein said blood clotting factor is complexed and/or

associated with one or more factors capable of enhancing the activity, stability, bioavailability, and/or efficacy of said blood clotting factor, wherein the method comprises the implantation of an effective amount of one or more implantable compositions of claim 62 to said patient.

86. (**Previously presented**) The method of claim 85, wherein the blood clotting factor is Factor VIII, and said one or more factors capable of enhancing the activity, stability, bioavailability, and/or efficacy of said blood clotting factor is von Willebrand factor.

87. (**Previously presented**) A method of treating a patient suffering from or predisposed to a disease or condition associated with a deficiency in a metabolic and/or physiologic function of the liver, said method comprising the implantation of an effective amount of one or more implantable compositions of claim 62 to the patient.

88. (**Previously presented**) The method of claim 87, wherein the disease or condition comprises chronic liver insufficiency, liver failure, liver disease, or alcoholic liver disease.

89. (**Previously presented**) A device for implantation into a recipient suffering from or predisposed to a disease associated with a deficiency in or absence of a secreted liver factor, the device comprising one or more implantable compositions of claim 62.

90. (**Previously presented**) The device of claim 89 comprising a capsule comprising a suitable biocompatible material such as alginate; a vascularized tube or chamber, more preferably a TheraCyte™ device available from TheraCyte, Inc., CA; a matrix preparation comprising gelatin, collagen, and/or natural carbohydrate polymers; or a plasma thrombin clot including an allogeneic plasma clot produced with allogeneic thrombin.

91. (**Previously presented**) The method of claim 89, wherein the hepatocytes are isolated from immortalised cells in commercially available cell cultures.